

REMARKS

Applicants have considered the Non-Final Office Action of June 6, 2007. Claims 1, 10, 11, 19, and 31 have been amended. No claims have been cancelled. New claims 33 and 34 have been added. Claims 1-34 are pending. Reconsideration of the Application is requested.

Support for the amendments to claim 1 can be found in the specification on page 7, lines 1-2 (anode and cathode being connected); page 13, lines 1-21 (discussing the anode and cathode in the two compartments); and page 57, lines 1-17 (discussing the production of hydrogen ions). Claims 10 and 11 were amended solely to maintain basis with claim 1.

Support for the "cathode connected to anode" amendment to claim 19 can be found on page 13, lines 1-21. The corrections to "hexose" in claim 19 are believed to be clear.

Support for new claim 33 can be found on page 27, lines 28-32.

Support for new claim 34 can be found in original claim 19 and on page 4, lines 19-28 (referring to "higher carbon compositions").

The Examiner objected to the specification. The Examiner also rejected claim 31 under 35 U.S.C. 112, 2nd paragraph, as allegedly being indefinite. As the objection and rejection are based on the same premise, Applicants traverse them together.

In the objection and the rejection of claim 31, the Examiner noted that the trademark SAMMS had been used. Applicants had intended to use it as an acronym, not a trademark. Consequently, Applicants have amended claim 31 to the full phrase, self-assembled monolayers on mesoporous supports, rather than the acronym. Applicants submit that this correction would have been clear to one of ordinary skill in the art and does not constitute new matter per MPEP § 2163(I)(B) and its discussion of *in re Oda*. As support, Applicants note that U.S. Patent No. 6,436,294 to Lundquist, cited by the Examiner, illustrates this knowledge to one of ordinary skill in the art. Additionally, Applicants have added a paragraph to the specification which describes

claim 31, including all of the claims from which it depends. Basis for this paragraph can be found in original claim 31.

Applicants request withdrawal of the indefiniteness rejection.

Claims 1-3, 10-13 and 16-17 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ayers (U.S. Patent No. 4,466,869) in view of O'Leary et al. (U.S. Patent No. 4,080,270). Applicants traverse the rejection.

Claim 1 has been amended to require that the anode be connected to the cathode. Applicants submit that there is no motivation to combine the references because the proposed modification would render the prior art unsatisfactory for its intended purpose. MPEP § 2143.01(V). In particular, O'Leary's purpose is to produce alkali metal carbonates. However, if O'Leary's cathode is connected to the anode, the apparatus would be short circuited, so that nothing will be produced. Furthermore, the connection of the anode to the cathode would produce a dangerous condition, a short circuited electrical apparatus connected to a supply of power. Ayers does not appear to disclose the connection of the anode to the cathode either. As a result, there would be no motivation to combine the references.

It is important to note that the connection of the anode to the cathode in the present invention is used in a photolytically driven reaction where the anode to cathode connection provides a circuit for the flow of electrons in the reaction within the apparatus.

Claims 4-7 & 14 were rejected under 103(a) as allegedly being unpatentable over Ayers, O'Leary, and Bender (U.S. Patent Publ. No. 2002/0033369).

Claims 8-9 & 15 were rejected under 103(a) as allegedly being unpatentable over Ayers, O'Leary, Bender, and Fujii (U.S. Patent Publ. No. 2002/0170815).

Claim 18 was rejected under 103(a) as allegedly being unpatentable over Ayers, O'Leary, and Lundquist (U.S. Patent No. 6,436,294).

Applicants traverse these three rejections together.

The rejected claims all ultimately depend from claim 1. If claim 1 is non-obvious (as argued above), then so are its dependent claims. MPEP § 2143.03; *In re Fine*.

Bender, Fujii, and Lundquist do not appear to remedy the shortcomings of Ayers and O'Leary. Thus, these claims are still non-obvious.

Applicants request withdrawal of these three § 103(a) rejections.

Claims 19-22, 28 and 32 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ayers, Bender, O'Leary, and Bacskai (U.S. Patent No. 4,101,531). Applicants traverse the rejection.

Applicants have also amended claim 19 to require that the anode and cathode are connected. As explained above, there is no motivation to combine Ayers and O'Leary in this way. Bender and Bacskai do not remedy the deficiency. Thus, claim 19 and its dependent claims are also non-obvious.

Applicants request withdrawal of the § 103(a) rejection.

Claims 23-24, 26-27 and 29 were rejected under 103(a) as allegedly being unpatentable over Ayers, Bender, O'Leary, Bacskai, and Fujii.

Claim 25 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ayers, Bender, O'Leary, Bacskai, and Lundquist.

Claims 30-31 were rejected under 103(a) as allegedly being unpatentable over Ayers, Bender, O'Leary, Bacskai, Fujii, and Lundquist.

Applicants traverse these three rejections together.

The rejected claims all ultimately depend from claim 19. If claim 1 is non-obvious (as argued above), then so are its dependent claims. MPEP § 2143.03; *In re Fine*. Bender, Bacskai, Fujii, and Lundquist do not appear to remedy the shortcomings of Ayers and O'Leary. Thus, these claims are still non-obvious.

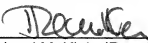
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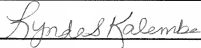
CONCLUSION

For at least these reasons, the pending claims (1-34) are in condition for allowance. Withdrawal of the rejections and issuance of a Notice of Allowance is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby authorized to call Richard M. Klein, at telephone number 216-861-5582, Cleveland, OH.

Respectfully submitted,
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